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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,309	01/02/2002	Katsumi Suzuki	WATK:223	8230

7590 04/08/2003

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EXAMINER

YEE, DEBORAH

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 04/08/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-13

Office Action Summary	Application N . 10/009,309	Applicant(s) SUZUKI ET AL.	
	Examin r Deborah Yee	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____ .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____ .
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2,9</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 3,891,432^y (Nakae et al), Japanese patent (JP) 405125480A, JP363011649A, JP409067640A^x, or US Patent 5,551,995^y (submitted by applicant).

Each reference teaches a spheroidal graphite cast iron alloy containing Mn within the range 0.05 to 0.45% and has a tensile strength and elongation within the claimed ranges of 650-850MPa and elongation of 7-14.5%, respectively. See US Patent '995, alloys 1 to 5, Tables 1,2, and 4 in columns 3 and 4 (note that Table 4 shows HB within the claimed range of 230-285HB); JP'640A, alloys 1 and 2, page 3; JP'649A, alloys 4 and 5 on page 270; JP'480A, alloy 2 on page 3 and alloy 36 on page 4; and US Patent '432, alloy 13, Table 2, column 2 (note HB value is 241).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4, and 6 to 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 3,891,432 (Nakae et al), Japanese patent (JP) 405125480A, JP363011649A, JP409067640A, US Patent 5,551,995 (submitted by applicant), or Japanese patent 9-125189 (submitted by applicant).

Each reference teaches specific spheroidal cast iron alloy examples which meet or closely approximate recited claims 2, 4, and 6 to 10 in composition, tensile strength and elongation but fails to disclose claimed properties such as a flank wear of 0.13 mm or less in a cutting distance of 1.7Km or a V-notch material having a fatigue limit of 290MPa or more. It is the examiner's position that these properties would be expected in the prior art alloys since they possess high toughness and also meet all the other limitations of the claims, and in absence of proof to the contrary.

In regard to claims 4, 8, ^{5 and 6} ~~and 10~~, note that JP'649 discloses a cast iron alloy 4 and 5 on page 27 containing Ni in the amount of 1.7 and 1.29%, respectively. Since applicant has not demonstrated criticality of the claimed Ni range of 2 to 4% (e.g. by comparative test data), then it would seem that a composition with 2% Ni vs. a composition with slightly less (say 1.7%)Ni would depict a mere difference in the proportion of element without any attendant unexpected results which would not patentably distinguish claims over prior art.

Moreover, note JP'189 on page 5 discloses examples 10 and 11 containing a Ni content of 2.0 and 2.96%, respectively which would be within applicant's claimed Ni range of 2 to 4%. Moreover the Tensile strength and elongation requirements are met. Even though prior art English abstract discloses austempering whereas the present

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invention teaches non-austempering, such would not be a patentable difference. Note that in a product-by-process claim, patentability is determined by the product per se and not the process limitations. Applicant has the burden to show that the prior art product does not necessarily or inherently possess the characteristics of the claimed product, see MPEP706.03e.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 703-308-1102. The examiner can normally be reached on Monday-Friday from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-873-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

dy
April 1, 2003


DEBORAH YEE
PRIMARY EXAMINER